

jb[®] SMD Aluminum Electrolytic Capacitor – JCK

■ FEATURES

- Chip type, operating with wide temperature range -40~+105°C.
- Load Life of 1,000~2,000 hours
- Designed for surface mounting on high density circuit board.
- Emboss carrier tape packing system is available for automatic insertion.



■ SPECIFICATIONS

- Operating Temperature -40°C ~ +105°C
- Voltage Range 4V ~ 100V.DC
- Capacitance Range 0.1 ~ 470 μF
- Capacitance Tolerance ±20% at 120Hz, 20°C
- Leakage Current Leakage current (Φ4~Φ8x6.2) ≤0.01CV or 3μA, whichever is greater. (after 2 minutes application of rated voltage)

- Dissipation Factor (tan δ) Measurement frequency: 120Hz, Temperature: 20°C

| Rated Voltage (V) | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
|-------------------|------|------|------|------|------|------|------|------|------|
| tanδ (max) | 0.35 | 0.26 | 0.20 | 0.16 | 0.14 | 0.12 | 0.12 | 0.12 | 0.12 |

- Stability At Low Temp. Measurement frequency: 120Hz

| Rated Voltage (V) | | 4 | 6.3 | 10 | 16 | 25 | 35 | 50~63 | 100 |
|-------------------|-----------------|----|-----|----|----|----|----|-------|-----|
| Impedance Ratio | Z-25°C / Z+20°C | 7 | 4 | 3 | 2 | 2 | 2 | 2 | 3 |
| | Z-40°C / Z+20°C | 15 | 8 | 6 | 4 | 4 | 3 | 3 | 4 |

- Load Life the characteristics After 2000 hours (1000hrs. for Φ4~Φ6.3x5.4) application of rated voltage at 105°C, capacitors meet requirements listed below.

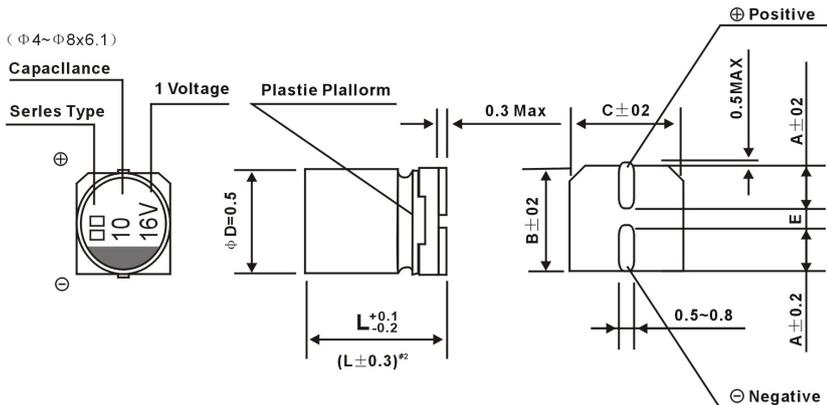
| | |
|--------------------|---|
| Capacitance Change | within ± 20% of initial value for capacitors of 10V or more |
| Dissipation Factor | 200% or less of initial specified value |
| Leakage Current | Initial specified value or less |

- Self Life After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above.

- Resistance to Soldering Heat After reflow soldering and restored at room temperature, they meet the characteristics listed below.

| | |
|--------------------|---------------------------------|
| Capacitance Change | Within ± 10% of initial value |
| Tan δ | Initial specified value or less |
| Leakage Current | Initial specified value or less |

■ DRAWING



#1 Voltage mark for 6.3V is [6V]

#2 Applicable to 6.3 x 7.7

| ΦDxL | 4x5.4 | 5x5.4 | 6.3x5.4 | 6.3x7.7 | 8x6.2 |
|-------|-------|-------|---------|---------|-------|
| A | 1.8 | 2.1 | 2.4 | 2.4 | 3.3 |
| B | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 |
| C | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 |
| E±0.2 | 1.0 | 1.3 | 2.2 | 2.2 | 2.2 |
| L | 5.4 | 5.4 | 5.4 | 7.7 | 6.2 |

Please visit our website to get more update data, those data & specification are subject to change without notice.

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■ Frequency coefficient of allowable ripple current

| Frequency | | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz~ |
|-------------|-----------|-----------|-------|-------|------|--------|
| Coefficient | Φ4~Φ8x6.2 | 0.1~68uF | 0.70 | 1.00 | 1.17 | 1.36 |
| | | 100~470uF | 0.85 | 1.00 | 1.08 | 1.2 |

■ STANDARD SIZE

| WV/V Cap/μF | 4 | | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | | |
|----------------|-----|------------------------|--------------|------------------------|--------------|-------------------------------|--------------------|-------------------------------------|-----------------------|----------------------|--------------|-------------------------------------|-----------------------|-------------------------------------|-----------------------|
| | OG | | OJ | | 1A | | 1C | | 1E | | 1V | | 1H | | |
| 0.1 | 0R1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4x5.4 | 0.7 | |
| 0.22 | R22 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4x5.4 | 1.6 | |
| 0.33 | R33 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4x5.4 | 2.5 | |
| 0.47 | R47 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4x5.4 | 3.5 | |
| 1 | 010 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4x5.4 | 7 | |
| 2.2 | 2R2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4x5.4 | 11 | |
| 3.3 | 3R3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4x5.4 | 13 | |
| 4.7 | 4R7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 5x5.4 (4x5.4) | 16 (13) | |
| 10 | 100 | -- | -- | -- | -- | -- | -- | 4x5.4 | 18 | 5x5.4 (4x5.4) | 20 (14) | 5x5.4 (4x5.4) | 21 (14) | 6.3x5.4 | 24 |
| 22 | 220 | -- | -- | 4x5.4 | 22 | 5x5.4 (4x5.4) | 25 (20) | 5x5.4 (4x5.4) | 27 (20) | 6.3x5.4 (5x5.4) | 36 (25) | 6.3x5.4 | 38 | 6.3x7.7 (6.3x5.4) (8 x 6.2) | 51 (42) (70) |
| 33 | 330 | 5x5.4 (4x5.4) | 30 (18) | 5x5.4 (4x5.4) | 27 (22) | 5x5.4 (4x5.4) | 30 (22) | 6.3x5.4 (5x5.4) | 40 (28) | 6.3x5.4 (5x5.4) | 44 (29) | 6.3x5.4 (8 x 6.2) | 42 (84) | 6.3x7.7 | 60 |
| 47 | 470 | 5x5.4 (4x5.4) | 36 (24) | 5x5.4 (4x5.4) | 33 (25) | 6.3x5.4 (5x5.4) | 41 (30) | 6.3x5.4 (5x5.4) | 48 (31) | 6.3x5.4 (8 x 6.2) | 48 (91) | 6.3x7.7 (6.3x5.8) | 70 (50) | 8x10.5 (6.3x7.7) | 120 (63) |
| 100 | 101 | 6.3x5.4 (5x5.4) | 60 (43) | 6.3x5.4 (5x5.4) | 50 (39) | 6.3x5.4 (8x6.2) | 53 (110) | 6.3x5.4 (8 x 6.2) | 60 (120) | 6.3x7.7 | 91 | 8x10.5 (6.3x7.7) | 120 (84) | 10x10.5 (8x10.5) | 170 (140) |
| 150 | 151 | 6.3x5.4 | 52 | 6.3x5.4 | 55 | 6.3x5.4 | 62 | 6.3x7.7 | 95 | 8x10.5 (6.3x7.7) | 140 (100) | 8x10.5 | 155 | 10x10.5 | 170 |
| 220 | 221 | 6.3x5.4 | 57 | 6.3x7.7 (6.3x5.8) | 105 (67) | 6.3x5.8 6.3x7.7 (8x6.2) | 67 105 (105) | 8x10.5 (6.3x7.7) (8 x 6.2) | 150 (105) (85) | 8x10.5 | 175 | 10x10.5 (8x10.5) | 220 (190) | 10 x 13.5 (10x10.5) | 280 (220) |
| 330 | 331 | 6.3x7.7 | 100 | 6.3x7.7 | 105 | 8x10.5 | 196 | 8x10.5 | 195 | 10x10.5 (8x10.5) | 240 (220) | 10x10.5 | 245 | 16x16.5 (12.5x13.5) (10x13.5) | 600 (420) (295) |
| 470 | 471 | 6.3x7.7 | 105 | 8x10.5 (8x10.5) | 210 (120) | 10x10.5 (8x10.5) | 260 (210) | 10x10.5 (8x10.5) | 295 (230) | 10x10.5 | 280 | 12.5x13.5 (10x13.5) (10x10.5) | 520 (375) (280) | 16x16.5 (12.5x16) | 700 (520) |
| 680 | 681 | 8x10.5 | 210 | 8x10.5 | 210 | 10x10.5 | 270 | 10x10.5 | 315 | 10 x 13.5 | 400 | 12.5x13.5 (10x13.5) | 530 (395) | 16x16.5 | 750 |
| 1000 | 102 | 8x10.5 | 230 | 10x10.5 (8x10.5) | 300 (230) | 10x10.5 | 315 | 12.5x13.5 (10x13.5) (10x10.5) | 500 (390) (340) | 12.5x13.5 | 580 | 16x16.5 (12.5x16) | 750 (600) | 16x21.5 | 1000 |
| 1500 | 152 | 10x10.5 | 315 | 10 x 13.5 (10x10.5) | 450 (315) | 10x13.5 | 460 | 12.5x13.5 | 550 | 12.5x16 | 850 | -- | -- | -- | -- |
| 2200 | 222 | 10 x 13.5 (10x10.5) | 440 (340) | 12.5x13.5 (10x13.5) | 620 (500) | 12.5x13.5 | 680 | 16x16.5 (12.5x16) | 950 (750) | 16x16.5 16x21.5 | 1050 1250 | 16x21.5 | 1300 | -- | -- |
| 3300 | 333 | 10 x 13.5 | 490 | 12.5x16 (12.5x13.5) | 700 (660) | 16x16.5 | 1000 | 16x16.5 16x21.5 | 1000 1200 | 16x21.5 | 1400 | -- | -- | -- | -- |
| 4700 | 472 | 12.5x13.5 | 600 | 16x16.5 16x21.5 | 1000 1200 | 16x21.5 | 1300 | 16x21.5 | 1350 | -- | -- | -- | -- | -- | -- |
| 6800 | 682 | 16x16.5 (12.5x16) | 950 (650) | 16x21.5 | 1250 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 10000 | 103 | 16x21.5 | 250 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| WV/V Cap/μF | 63 | | 100 | | |
|----------------|-----|---------------------------------------|-----------------------|-------------------------------------|-----------------------|
| | 1J | | 2A | | |
| 0.1 | 0R1 | 4x5.4 | 0.7 | -- | -- |
| 0.22 | R22 | 4x5.4 | 1.6 | -- | -- |
| 0.33 | R33 | 4x5.4 | 2.5 | -- | -- |
| 0.47 | R47 | 4x5.4 | 3.5 | -- | -- |
| 1 | 010 | 4x5.4 | 7 | 4x5.4 | 7 |
| 2.2 | 2R2 | 4x5.4 | 11 | 6.3x5.4 | 14 |
| 3.3 | 3R3 | 5x5.4 | 13 | 6.3x7.7 (6.3x5.4) (8x6.2) | 32 (20) (30) |
| 4.7 | 4R7 | 5x5.4 | 16 | 6.3x7.7 (6.3x5.4) | 35 (21) |
| 10 | 100 | 6.3x7.7 (6.3x5.4) (8 x 6.2) | 39 (24) (25) | 8x10.5 (6.3x7.7) | 77 (35) |
| 22 | 220 | 8x10.5 (6.3x7.7) | 98 (49) | 10x10.5 (8x10.5) | 126 (84) |
| 33 | 330 | 8x10.5 | 112 | 10x10.5 | 133 |
| 47 | 470 | 10x10.5 (8x10.5) | 160 (119) | 12.5x13.5 (10x13.5) (10x10.5) | 250 (160) (140) |
| 68 | 680 | -- | -- | 12.5x13.5 (10x13.5) | 300 (180) |
| 100 | 101 | 12.5x13.5 (10.5x13.5) (10x10.5) | 270 (210) (196) | 16x16.5 (12.5x13.5) | 450 (380) |
| 150 | 151 | 10 x 13.5 | 225 | -- | -- |
| 220 | 221 | 16x16.5 (12.5x13.5) (10x13.5) | 560 (470) (235) | 16x16.5 16x21.5 | 550 750 |
| 330 | 331 | 16x16.5 (12.5x16) | 700 (510) | 16x21.6 | 800 |
| 470 | 471 | 16x16.5 16x21.5 | 750 900 | -- | -- |
| 680 | 681 | 16x21.5 | 950 | Case size | Allowable ripple |

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